Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **River Protection**

Print Date: **3/9/2000**

Site Summary Level: **Office of River Protection**

HQ ID: **0392**

Project **RL-TW10 / TWRS Management Support**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose: The TWRS Management Support Project (MSP) provides program management services and oversight that sustain TWRS integration and control. Practical products of MSP work are systems developed, improved, deployed, and maintained to structure program strategy, direction and business management in support of the TWRS technical functions, waste storage and waste disposal. Primary MSP functions include: 1) executive management and strategic planning; 2) systems engineering to support risk and decision management and ongoing evolution of the TWRS technical bases; 3) administration of a core program and crosscutting services to ensure environmental, safety, health and quality assurance compliance to all regulatory and contractual requirements applicable for TWRS; 4) and life-cycle project management that includes work to establish and maintain technical, cost and schedule elements for the TWRS baseline.

Scope: The TWRS Management Support Project (MSP) provides program management services and oversight that sustain TWRS integration and control. Practical products of MSP work are systems developed, improved, deployed, and maintained to structure program strategy, direction and business management in support of the TWRS technical functions, waste storage, and waste disposal. TWRS Management Support life of project activities at this WBS level are Management and Administration, Integration, Planning and Control, and Direction. Primary MSP functions include:

Management and Administration provides fiscal stewardship, business administration and executive management oversight, TWRS strategic planning, baseline control, contract administration, correspondence control, public interface, and TWRS engineering functional administration.

Integration encompasses oversight Environmental, Safety, Health, and Quality Assurance core program and Systems Engineering maintenance of the TWRS portion of the Hanford Site Technical Database. It also provides a structured, teaming approach to appropriately apply Business Process Improvement disciplines to the TWRS business processes, information resource management direction and control, and implementation of the work management modules.

Planning and Control provides for work definition, planning, and reporting to effectively sustain TWRS. Activities include direction for the development and control of the TWRS cost/schedule baseline; configuration management services to projects; administration of technical and programmatic baseline change control; cost estimating direction and services; construction project oversight; and cost, schedule, and technical risk evaluation.

Direction provides for the DOE-RL support to TWRS, including oversight, permitting, and environmental compliance and for the Fluor Daniel Hanford Project Office for TWRS. It also serves as an administrative placeholder to represent funding budgeted each fiscal year for collection by the TWRS contractor(s) as incentive fees.

Technical Approach: The technical approach and technology initiatives for the Project to accomplish the Hanford Strategic Plan end point targets are identified below.

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Project Description Narratives

· Technical Approach - Management Support Project: The Management Support Project is an indirect result of the systems engineering process to identify and define functional, architectural, and interface requirements for the TWRS system. MSP work results in no physical deliverable toward the TWRS mission, but practical management is recognized as essential to achievement of TWRS' mission and technical objectives.

MSP expects to apply the Systems Engineering Management Plan toward continued improvement of the TWRS technical baseline, and to monitor ongoing systems engineering analysis of TWRS functions and requirements to identify emerging need for work products that compel changes in strategic and budget plans. MSP expects to manage TWRS under a project control system based on efficient utilization of business best practices that include activity-based cost estimating, logic based integrated resource-loaded scheduling, configuration management and change control, appropriate automated data processing systems, and documentation. MSP expects to establish policy, maintain oversight, and provide assessment services to ensure TWRS compliance and satisfy specific drivers for TWRS MSP work that includes the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement, PTA); DOE Order 430.1; DNFSB Recommendation 92-4 Implementation Plan; the Price Anderson Amendment Act; 10CFR835 and 10CFR830.120; DOE Order 5700.6C; and multiple statutes and regulations identified in the TWRS Standards/Requirements Identification Document (notably those related to safety/health, quality, and the environment).

Project Status in FY 2006:

The Management Support Project work scope of providing essential program management services and oversight to sustain TWRS integration and control is ongoing throughout the life cycle of the TWRS mission.

Post-2006 Project Scope:

The Management Support Project is necessary for the TWRS mission life cycle.

Project End State

The Management Support Project is necessary for the TWRS mission life cycle.

Specific work activities to close the facilities under this Project to be performed by others at the end of this Project's mission are identified below.

Cost Baseline Comments:

Estimates supporting the Tank Waste Remediation System FY 2000 Project Baseline Summaries estimate were developed using Activity-Based Cost estimating methodology consistent with the "Hanford Cost Estimating and Scheduling Guide," DOE/RL-97-90, Revision 0.

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Project Description Narratives

The TWRS FY 2001 PBS is a product of the development of the technical scope, schedule and cost baselines. The scope, schedule and cost baselines are interrelated and have been integrated. The Hanford Site Technical Baseline requirements have been incorporated in the TWRS technical baseline through development of TWRS technical specifications. Level 0 and Level 1 work logics were developed to define the activities and interfaces necessary to meet the technical requirements. For much of the TWRS work, Technical Basis Review (TBR) data packages were then prepared to decompose the Level 1 activities to a detailed, executable task level and document scope and resources necessary to complete the work. Activities and resources from the TBRs were input to Primavera (P3) to prepare the TWRS detailed baseline schedule. Pricing of the estimate was performed in P3 using standard rates and factors developed by the FDH Chief Financial Officer and approved by DOE for forward pricing purposes. The resource-loaded schedules are traceable to the TBR data packages. Costs generated by P3 were developed using the DOE-approved planning rates and were manually escalated using the DOE-approved escalation rates.

Due to significant variations in the current phases of the TWRS projects and available data and scope definition, many estimating techniques have been utilized in development of the cost estimate. They include definitive, parametric, analogy, trend analysis, level of effort and engineering judgement. ABC estimates for the scope of work have been prepared at the lowest level of detail practical. As expected, the level of scope definition and estimate detail is greatest for the near-term activities and less well defined in later years. Through the annual planning process and change control, the execution year and outyear estimate basis will continue to be refined, updated and validated.

The Estimate Basis is contained in numerous technical scope, schedule and cost baseline and supporting documents including TBR data packages.

Safety & Health Hazards:

No hazards identified within this project. MSP provides only management and (some) assessment, in oversight of TWRS technical execution to achieve S&H compliance.

Safety & Health Work Performance:

The TWRS Project mission scope includes the activities needed to: 1) resolve nuclear safety issues; 2) operate, maintain, and upgrade Hanford tank farm facilities, including single-shell and double-shell high-level dangerous waste storage tanks, and supporting infrastructure; 3) construct, operate, and maintain facilities that are necessary for waste storage, retrieval, waste separation, waste preparation, immobilization, and disposal or shipment; 4) characterize, retrieve, pre-treat, and immobilize the waste for disposal; 5) provide for the disposition of the cesium and strontium capsule contents; 6) provide disposal of immobilized low-activity waste (ILAW) onsite; 7) provide interim storage of immobilized high-level waste (IHLW) until it is shipped to the National geological repository; and, 8) provide for the closure and decontamination and decommissioning of TWRS facilities and post-closure monitoring. Additionally, the TWRS Project maintains a program management and oversight function that assure the efficient and safe execution of mission objectives.

An Integrated Safety Management (ISM) system is utilized throughout TWRS to ensure the safety and health of workers, the public and the environment. The ISM process at TWRS includes the following key elements: work scope definition; identification of hazards, control of hazards; work performance; and a continuous improvement feedback loop.

Safe and environmentally protective work is conducted in accordance with the requirements, controls, and procedures developed from and contained in the Authorization Envelope. FDH and the Major Subcontractors are committed to ensuring that all work is performed in a safe environmentally

Project Description Narratives

protective manner, and within the Authorization Envelope. Working within the Authorization Envelope includes adhering to controls specified in the approved safety basis, complying with the approved Requirements Basis, and complying with the requirements in applicable environmental permits, consent orders and agreements, and other documentation.

The formality and degree to which work is directed by procedures and the degree of direct supervision is to be established based on the type and magnitude of the hazards and environmental impacts, the confidence that the hazards and environmental impacts are well known, confidence in the controls selected, complexity of the work performed, and worker qualifications. TWRS uses detailed procedures that require line managers and supervisors to routinely observe work activities, monitor safety practices, correct deficiencies as they are identified, and coach employees in the field. For example, the senior supervisory watch program has been established to ensure the appropriate level of management is present during performance of high Hazard tasks. Procedures include guidance for the determination of high hazard tasks.

At the facility level, FDH has delineated expectations for LMHC to conduct Operational Readiness Reviews and Readiness Assessments, conduct USQ screenings, evaluate work against the approved Authorization Envelope, and ensure personnel evaluating USQs are trained and qualified.

At the activity level, work management and ES&H management process are integrated to focus on the necessary elements of work planning combined with safety and environmental protection so that work can be conducted in a manner that ensures safety and environmental protection while optimizing productivity and efficiency.

PBS Comments:

MSP services are basic to a systems infrastructure in support of the TWRS Program. MSP functional execution requires that TWRS projects provide input for baseline management, cyclical planning, performance reporting, and technical contributions as necessary to support TWRS management. MSP budgets to fund PHMC performance-based fees, administrates TWRS performance-based initiatives, and provides for special studies required by the TWRS Program.

The MSP plan for transition to Disposal will embody lower level planning by separate cost accounts. Some transition by cost account may occur earlier than 2005, if need warrants changeover and Disposal provides funds.

Baseline Validation Narrative:

A life-cycle, activity-based cost estimate was prepared for the TWRS Management Support Project and DOE-HQ, FM-20 completed an Independent Cost Estimate (ICE) review on the project. The ICE report was reconciled on 4/1/96.
FY97 Critical Analysis performed by PT&C.

General PBS Information

Project Validated?	Yes	**Date Validated:**	4/1/1996
Has Headquarters reviewed and approved project?	Yes		
Date Project was Added:	12/1/1997		

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Project **RL-TW10 / TWRS Management Support**

General PBS Information

Baseline Submission Date:

FEDPLAN Project?

Drivers:	**CERCLA**	**RCRA**	**DNFSB**	**AEA**	**UMTRCA**	**State**	**DOE Orders**	**Other**
		Y	Y			Y	Y	Y

Project Identification Information

DOE Project Manager: J.C. Peschong

DOE Project Manager Phone Number: 509-376-9327

DOE Project Manager Fax Number: 509-373-0628

DOE Project Manager e-mail address: jon_c_peschong@rl.gov

Is this a High Visibility Project (Y/N): Y

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	**2007-2070 Total**	**1997-2070 Total**	**1997**	**Actual 1997**	**1998**	**Actual 1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PBS Baseline (current year dollars)	400,541	887,985	1,288,526	30,644	24,968	40,232	37,077	38,710	38,577	41,958	40,898	42,753	41,386	45,068	40,315
PBS Baseline (constant 1999 dollars)	376,557	616,014	992,571	30,644	24,968	40,232	37,077	38,710	37,784	40,210	38,351	39,227	37,156	39,590	34,653
PBS EM Baseline (current year dollars)	400,541	887,985	1,288,526	30,644	24,968	40,232	37,077	38,710	38,577	41,958	40,898	42,753	41,386	45,068	40,315
PBS EM Baseline (constant 1999 dollars)	376,557	616,014	992,571	30,644	24,968	40,232	37,077	38,710	37,784	40,210	38,351	39,227	37,156	39,590	34,653

	2007	**2008**	**2009**	**2010**	**2011-2015**	**2016-2020**	**2021-2025**	**2026-2030**	**2031-2035**	**2036-2040**	**2041-2045**	**2046-2050**	**2051-2055**	**2056-2060**	**2061-2065**	**2066-2070**

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Project **RL-TW10 / TWRS Management Support**

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	41,367	42,277	42,840	43,783	231,611	258,439	227,668	0	0	0	0	0				
PBS Baseline (constant 1999 dollars)	34,791	34,791	34,496	34,496	171,031	171,167	135,242	0	0	0	0	0				
PBS EM Baseline (current year dollars)	41,367	42,277	42,840	43,783	231,611	258,439	227,668	0	0	0	0	0				
PBS EM Baseline (constant 1999 dollars)	34,791	34,791	34,496	34,496	171,031	171,167	135,242	0	0	0	0	0				

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.10%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%				

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/2005

Current Projected End Date of Project: 9/30/2025

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars): 246,032 **Actual 1997 Cost:** 24,968 **Actual 1998 Cost:** 37,077

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Project **RL-TW10 / TWRS Management Support**

Project Reconciliation

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	183,987	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**	4,968
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	188,955		

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	188,955	
Additional Amount to Reconcile (+):	732,740	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**921,695**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Begin TWRS Management Support Project	PBS-97-009		2/28/1997								
PBS Mission Completion	PBS-MC-009		9/30/2025								
PBS Project End	PBS-PE-009		9/30/2025								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Begin TWRS Management Support Project	PBS-97-009			Y							Administrative input to document the start of this PBS.
PBS Mission Completion	PBS-MC-009					Y					Administrative input to document

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Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
											the mission completion of this PBS.
PBS Project End	PBS-PE-009				Y						Administrative input to document the project end of this PBS.